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Original Article

Effects of Fish Oil Supplementation on Pregnancy Outcomes in Pregnant Women Referred to Kosar Hospital

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Abstract

The hypothesis of a protective effect of fish oil supplementation in preventing some consequences of pregnancy such as gestational hypertension is put forward which has attracted increasing attention. The aim of the present study was to evaluate the effect of fish oil supplementation on outcomes of pregnancy. This study was a clinical trial performed on 339 women with singleton pregnancy aged 18-35 and gestational age of 20 weeks who visited prenatal clinic at Kosar Hospital in Qazvin during 2015-2016. Patients were randomly divided into two groups marked as intervention group which received soft gelatin capsules (each containing 1000 mg fish oil including 120 mg DHA and 180 mg EPA) on a daily basis from the 20th week to the end of pregnancy, and the women in the control group with no fish oil intake. The outcomes of pregnancy including preeclampsia, eclampsia, preterm labor, gestational diabetes, weight, height, head circumference at birth and the gestational age at delivery were evaluated in both groups. Data were analyzed using statistical tests including Mann-Whitney U test and *t*-test. There was significant difference in gestational age between the two study groups ($P < 0.05$). There was no significant difference in the percentage of preterm birth, preeclampsia, eclampsia, IUGR, and GDM between the two groups ($P > 0.05$). The results of this study showed that consumption of fish oil supplements from 20th week of gestation by 18-35 year-old pregnant women increased pregnancy age but failed to decrease the percentage of preterm birth, preeclampsia, eclampsia, IUGR, and GDM.

Keywords: Fish Oils; Fatty Acids; Omega-3, Pregnancy Outcome; Preterm birth; Infant.

Introduction

The nutritional status of mother before and during pregnancy is a determination factor associated with morbidity before and during childbirth, weight at birth, and other parameters related to appropriate feeding (1). Nutritional recommendations for mothers emphasize over the consumption of essential proteins, vitamins, and minerals nevertheless, in recent years the inclusion of long-chain unsaturated omega-3 fatty acids in the diet are also strongly suggested (2, 3). These essential fatty acids should be received through foods or food supplements as the human body can not synthesize such nutrients (4). Biologically, docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) are the most active long-chain unsaturated omega-3 fatty acids abundantly found in fish oil (5-7). Consumption of DHA and its concentration in mother's blood flow is an important

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